DOC'S FRIENDS, INC.

**Revised: 03/01/2022**

# B-29 DOC 469972 GENERAL MAINTENANCE MANUAL

**Doc's Friends, Inc.**

**Wichita, Kansas**

**2022 Edition**

# General Maintenance Manual System

This General Maintenance Manual (GMM) has been prepared referencing Federal Aviation Regulations, Parts 91, 119 and 135. The procedures and policies contained herein supplement the regulations and are considered essential to good operational practices and safety. If there is any question regarding applicability, the FARs shall prevail.

The GMM is intended to provide operating and maintenance procedures commensurate with the highest degree of safety. The manual is used for guidance by management, ground and maintenance personnel in the maintenance of the DOC'S FRIENDS, INC., (DFI) B-29 in compliance with the referenced FARs and corporate Operations Manual.

There are other publications and manuals used by DFI personnel in the conduct of maintenance operations. These documents are identified in the appropriate sections of this manual.

Questions regarding the content of this manual should be referred to the Director of Maintenance.

The instructions contained in this manual are designed to assist persons in the safe and compliant operation of the B-29. The GMM should not be considered a complete guide to all company maintenance policies and procedures. Specifically, it will not be utilized as a replacement for good judgement in daily operations.

The purpose of the manual is to outline the procedures that are used to comply with all applicable FAR's. Routine, non-routine, preventative maintenance and alterations are performed in accordance with the specifications listed in the Aircraft Technical Orders and FAA Approved/Accepted Data.

FAA approved data includes, but is not limited to current revision levels of: Aircraft Technical Orders, Airworthiness Directives, AC 43.13-1&-2, Manufacturers FAA Approved Data, Designated Engineering Representative Approved Data (FAA Form 8110-3), designated alteration station approved data and appliance manufacturers manuals.

This manual provides a program that satisfies the requirements of the Living History Flight Experience Exemption (LHFE) for aircraft that are operated under that program.

# Record of Revisions

| Revision Number | Page of Revision | Date of Revision | Reason for Change | Inserted by |
|---|---|---|---|---|
| Original | N/A | 03/05/2018 | Establishment | RH |
| Rev 1 | Complete | 03/01/2022 | Formatting | JW |
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## CHAPTER 1 – General Operating Procedures

### Operations Maintenance Base

DOC'S FRIENDS, INCORPORATED

3800 South Oliver

Wichita, KS. 67277

PHONE: 316-250-7810

### Base Functions

1. Maintenance management
2. Records management
3. Archived information
4. Line-level maintenance
5. Other higher maintenance events
6. Component repair or exchanges
7. Parts supply and inventory control
8. Maintenance training
9. Individual aircraft maintenance records

### Responsible FAA Office

The Wichita Flight Standards District Office (ICT FSDO) has overall oversight and responsibility for our air operations.

Wichita FSDO

1801 Airport Road

Wichita, KS. 67209

### Responsibility for Airworthiness

DOC'S FRIENDS, INC., (DFI) is responsible for the airworthiness of the B-29 including airframe, engines, propellers, appliances and parts.

DFI has the necessary facilities, equipment and personnel to either perform or directly over see the maintenance, preventative maintenance and alterations on the B-29. The actual maintenance and inspections may be performed away from our maintenance base under our supervision and oversight.

The manual is used in conjunction with FAR Parts 43, 65, 91, 135, 145, NTSB Part 830 and other relevant publications. All applicable aircraft, engine and component manufacturer's maintenance manuals to include Aircraft Technical Orders are considered part of this manual.

### Company Authorizations

DFI is authorized to perform, and/or arrange with other persons to perform maintenance and alterations on the B-29 as provided in this manual.

DFI is authorized to approve any maintenance, preventative maintenance and alterations performed for Return to Service. However, in the case of a major repair or alteration, the work must be performed in accordance with technical data approved by the Administrator.

## Manual Revisions

Manual revisions are maintained for review. Once revisions are approved, they are distributed to the manual holders. The Record of Revisions (ROR) is used to record the posting of manual revisions.

Suggestions for revisions to this manual should be submitted in writing to the Director of Maintenance.

## Manual Revision Record

When a revision has been accomplished, the manual holder shall record the change on the Record of Revision page. The manual holder should sign and date the form. The signature on the form is used as verification that the revision has been inserted in the manual. A copy of the form is included in the Forms chapter. Each manual holder is responsible for ensuring that revisions are promptly inserted into the manual. The Director of Maintenance is responsible for updating the GMM. The Director of Maintenance is responsible for reviewing the manual on a continuous basis. Revisions are issued on an "as required basis" in response to and internal or FAA request.

## Manual Distribution

A complete copy of the GMM will be held by the Director of Operations and the Director of Maintenance.

The requirement for a copy of the manual in the aircraft may be met by ensuring that a manual is available wherever maintenance is performed or the carrying of or access to an electronic version of the manual, which may include an internet based access to the GMM. In the case that no computer is available, the Director of Maintenance will provide a faxed copy.

The COMPANY MASTER copy of the GMM is maintained by the Director of Maintenance and represents the most current copy of this manual. The requirement for the Director of Maintenance to maintain a copy of the manual may be satisfied by ensuring that a manual is available at the DFI operations/maintenance base. Individual manuals are not required.

## Location of Maintenance Records

Aircraft specific manuals are located at the DFI Operations / Maintenance base. Specific information may include:

1. Logbooks: The aircraft, engine and propeller logbooks are kept in the DOM's office and all pertinent aircraft airworthiness details are entered into them.
2. Aircraft Maintenance Logs (AMLs): The aircraft's flight and maintenance logs are scanned and entered into the computer data base. The paper copies are maintained until the Work Order in the computer has been verified as correct.
3. Inspection Records: In accordance with FAR 91.409 (F)(4), a FAA Approved Aircraft Inspection Program has been developed and incorporated to maintain the airworthiness of the B-29. Details of the inspection program administration are kept separately in an inspection program binder. The completed Inspection Records are scanned and entered into the computer data base. The paper copies are maintained until the Inspection scanned Inspection Record in the computer has been verified as correct.

4. Component Tags and 8130's: The Tags and 8130's are scanned and entered into the computer data base. The paper copies are maintained until the complete Inspection Records in the computer have been verified as correct.
5. AD and SB Records: AD and SB Records are entered into the aircraft/engine/propeller logbooks as they are complied with.
6. All original paper documents will be stored for a minimum of 2 years after the work is completed and they have been scanned into the computer database.

### Operational and Safety Information

The Director of Operations and the Director of Maintenance are responsible for reviewing operational and maintenance information to ensure that new unincorporated technical information is disseminated to DFI personnel.

Changes affecting any flight operation or procedure shall be reviewed and coordinated with the Director of Operations and the Director of Maintenance. Additional data received between manual revisions is also reviewed by the Director of Operations and the Director of Maintenance. If necessary, information will be immediately incorporated into a manual revision.

### FAA Bulletins, Alerts and Manufacturer's Data

FAA Bulletins, alerts and Manufacturer's data are forwarded to DFI by the FAA, Service Bulletins, Airworthiness Directives and industry sources.

### Immediate Dissemination

It is the responsibility of the Director of Operations and the Director of Maintenance, as appropriate, to disseminate immediate action information to the appropriate DFI personnel by whatever means possible.

Information that would affect safety of flight operations many result in the immediate grounding of the DFI B-29.

### Operational Manual (OM) Changes

The Director of Operations is responsible for disseminating to crewmembers any information or changes to DFI operational policies, procedures or manuals and shall ensure all operational revisions are properly posted.

OM changes may require immediate dissemination due to changes to flight or maintenance procedures.

The Director of Operations is responsible for manual distribution, tracking, revision control and recording for DFI's manual system.

## CHAPTER 2 – Maintenance Administration and Organization

### Aircraft Inspections and Record Review

The Director of Maintenance can use many resources for assistance with aging aircraft record reviews and inspections. DFI routinely inspects and monitors its aircraft for aging aircraft issues. The Director of Maintenance will conduct an annual review of records to include logbook entries, ADs, Aircraft Technical Orders and aircraft operational history.

The Director of Maintenance is also encouraged to participate in aircraft type clubs and develop relationships with operators of like aircraft for the sharing of maintenance and safety information regarding our rare aircraft.

DFI will continue to apply preventative measures for corrosion control and to inspect airframes for fatigue. The Director of Maintenance may use any Advisory Circular, data from a manufacturer, or any special inspection provided in the AIP to monitor aging aircraft issues.

Reference documents should include but are not limited to:

1. AC20-106, Aircraft Inspection for the General Aviation Aircraft Owner.
2. AC43-4A, Corrosion Control for Aircraft.
3. AC43-12A, Preventative Maintenance.
4. AC43.13-1B, Acceptable Methods, Techniques and Practices – Aircraft Inspection and Repair.
5. 14 CFR 43.15 Appendix D, Scope and Detail of Items (as Applicable to the Particular Aircraft) To be Included in annual and 100 Hour Inspections.

### Maintenance Program

DFI is responsible for the airworthiness of our B-29 and for compliance with the FARs and this manual. The Director of Maintenance ensures that each contract maintenance facility has access to the maintenance manuals/Aircraft Technical Orders for the B-29. The facility shall follow the instructions and procedures contained in the FARs, manufacturer's maintenance manuals, Aircraft Technical Orders and other approved technical data while performing maintenance or alterations of the DFI B-29.

### Aircraft Inspection Program

In accordance with FAR 91.409 (F)(4), a FAA Approved Aircraft Inspection Program has been developed and incorporated to maintain the airworthiness of the B-29. The Inspection Program has its own control procedures, forms and reports which must be followed.

### Scheduled Maintenance

The scheduled maintenance program element refers to maintenance tasks performed at the intervals prescribed by the Approved Inspection Program. Some maintenance tasks are accomplished concurrently with inspection tasks that are part of the inspection program and may be documented on the same form. Other tasks are accomplished independently.

The scheduled tasks may include replacement of life-limited items, components requiring replacement for periodic overhaul, special inspections such as X-rays, checks or tests for On-Condition items, lubrications, etc.

### Unscheduled Maintenance

Inspection discrepancy forms, including the Aircraft Maintenance Log (AML), are used for processing unscheduled maintenance tasks in conjunction with scheduled inspections. Instructions and standards for unscheduled maintenance are provided in the Mechanical Irregularities chapter of this manual.

The unscheduled maintenance program element provides procedures, instructions and standards for the accomplishment of maintenance tasks generated by the inspection and scheduled maintenance elements, pilot reports, failure analysis or other indications.

Procedures for reporting, recording and processing inspection findings, operational malfunctions, or abnormal operations such as hard landings, are an essential part of this element.

### Engine and Appliance Maintenance and Overhaul

This program element concerns shop operations that encompass scheduled and unscheduled maintenance tasks that are performed on components or appliances that have been removed from the aircraft. Instructions, standards and the means for certifying and recording the accomplishment of work are included. Life-limited parts replacement requirements are included in this element.

### FAA Relations

DFI personnel are expected to cooperate with FAA Inspectors and respond to FAA inquiries. FAA Inspectors generally will coordinate visits and contacts with the Director of Maintenance. The Director of Maintenance is responsible for making maintenance records available to the FAA for inspection. Normally, the FAA provides advance notice of their requirements to permit the maintenance department an opportunity to gather and organize the records. Original maintenance records shall not be removed from the premises without specific approval from the Director of Maintenance.

### Recording Maintenance

DFI personnel's full first and last name is required for certifying work accomplishment. Block printing is required on all DFI forms except when signatures are required. Procedures on some forms will require a certificate (A&P) number to be included with the signature.

Work accomplished by Vendor Repair Stations may be certified in accordance with the Repair Station procedures as authorized by the Director of Maintenance. The uses of stamps by certified Repair Stations with approved inspection procedures is acceptable when authorized by the Director of Maintenance.

### Correcting Mistakes and Errors

Inevitably, mistakes and errors will happen. It is corporate policy to recognize the mistakes and take corrective action as soon as possible. If the error results in an aircraft being unairworthy, it shall be immediately grounded regardless of location.

If an erroneous entry was made in a written record, it shall be corrected by a written entry describing the error and signed by the person making the correction.

## CHAPTER 3 – Maintenance Recording

### Inspection Forms

Inspection forms usually consist of single and multiple-sheet forms. It is critical that persons using the forms are familiar with the layouts, entering information and processes for updating the forms and records.

If a discrepancy is discovered, the corrective action may be recorded on a separate worksheet.

### Permanent Aircraft Maintenance Records

The aircraft and engine records are maintained by the Director of Maintenance, or delegate and are filed with the aircraft's permanent maintenance records at the DFI maintenance base.

The records include the following required entries:

1. Scheduled inspections
2. Serial-numbered part and component changes
3. AD and SB compliance
4. Life-limited part changes
5. Major structural repairs and alterations

### Aircraft and Engine Records

Logbook entries for the airframe, engines, propellers and accessories must be updated after a maintenance action accomplished in accordance with the manual.

The following are permanent aircraft maintenance records required to be maintained by the Director of Maintenance:

1. Aircraft Flight and Maintenance Logs
2. Aircraft / Engine / Propeller Logbooks
3. Component 8130-3's
4. Component / Parts Tags
5. Outside Maintenance Work Orders and Records

### Aircraft Inspection Status

All maintenance reports are maintained by the Director of Maintenance. The aircraft's inspection status is updated to the tracking program. After each update, a copy is made of the tracking report that shows the current inspection status of the B-29. The Status Sheet for the aircraft will also contain a record of each Airworthiness Directive (AD) that pertains to the aircraft, engine, propeller or appliance. A copy of the current Inspection Status Report will be carried on the aircraft.

### Service Bulletin Compliance Record

Manufacturer's Service Bulletins are managed as follows:

1. Compliance with mandatory Service Bulletins shall be in accordance with the inspection program the aircraft is maintained under.
2. Under certain circumstances, it is acceptable to deviate from the requirements of this paragraph provided deviation is recommended or agreed to by the manufacturer and approved by FAA.

Any deviation / variation from approved data must be obtained in writing from the Original equipment Manufacturer (OEM) or the FAA by the Director of Maintenance. A copy of the authorization shall be placed on file with the original instruction at the maintenance base.

### Aircraft Flight Log

The Aircraft Flight Log (AFL), is completed by the flight crew and qualified maintenance personnel. It is the responsibility of the Flight Engineer to ensure the accuracy of the entries.

Aircraft and crewmember flight times and other required information is captured on the AFL.

1. The flight crew enters the aircraft landings, and flight times. Flight times are recorded in hours and tenths.
2. Log pages will be recorded and maintained at the DFI Maintenance Base.

### Aircraft Discrepancy Log

The Aircraft Discrepancy Log, (ADL), is used to record aircraft discrepancies and maintenance activities. Log pages are numbered and maintained in the aircraft. Discrepancies may be entered either by the flight crew or by a maintenance member. However, it is the PIC's responsibility to ensure all entries are complete and accurate.

### Parts Tags

DFI uses the tags of approved maintenance facilities and suppliers. These tags all look different depending on where they come from but they are generally divided into Serviceable, Unserviceable or information / data tags.

A tag will be attached to a component upon removal from the aircraft.

Tags will be attached to the permanent record of the aircraft, engine or component and scanned into the computer database. (Aircraft, engine, propeller Maintenance logs or associated FAA 8130-3's). Unsalvageable aircraft parts, components and materials will be disposed of in accordance with FAA AC 21-38.

NOTE: Refer to AC 21-29B, or latest revision, for procedures for reporting **Suspected Unapproved Parts**.

### Protection of Tags

It is costly, time consuming and difficult to document an aircraft, engine, propeller or component status without proper tags.

### Unserviceable Tag

When used, the RED tag is attached to parts removed from the aircraft that are no longer serviceable or repairable. The word "**UNSERVICEABLE**" is on this tag.

Any item that is RED tagged must not be placed on an aircraft and the tag shall not be removed from the part or component. It is possible that an examination by the part or component manufacturer or an authorized repair facility will find the item to be repairable. The tag shall be attached to the component upon removal from the aircraft. Entries must be made by a qualified mechanic or inspector.

NOTE: To meet requirements pertaining to suspected Unapproved Parts, the items that have been RED tagged should be isolated in a storage area and additions to or removals should be coordinated with the Director of Maintenance.

### Serviceable Tag

A YELLOW Serviceable tag may be used to identify parts/components removed from and aircraft that are still serviceable and may be placed back on the aircraft. The tag has an area for information to identify the action that resulted in the removal of the part/component.

Entries must be made by a qualified mechanic or inspector.

### Repairable Tag

A GREEN Repairable tag may be used to identify parts/components removed from and aircraft that are deemed repairable by a qualified mechanic or inspector.

Entries must be made by a qualified mechanic or inspector.

### Identification Tag

A BUFF Identification tag may be used to identify parts/components received, or taken from an aircraft. Generally, this is used in conjunction with other tags, such as Rejected, Serviceable, Repairable, or the parts identification tags that are on parts received.

### Incoming Parts and Material Inspection

The purpose of this inspection is to determine the quality, eligibility, identification and condition of approved aeronautical replacement parts and materials that are used during the course of maintenance, preventative maintenance, or alteration of the aircraft, aircraft engines, propellers, appliances or component parts to detect and report Suspected Unapproved Parts and to identify materials with limited shelf lives.

1. Inspect packaging or part for external evidence of shipping damage or other evidence of damage.
2. Cross check purchase orders with the delivery receipts for proper part number or component history card. Verify that part identification requirements have not been tampered with (e.g.: Seral numbers stamped over, improper or missing labels, etching of serial numbers at other than normal locations, etc.).
3. Inspect parts for visual defects and abnormalities (e.g. altered or unusual surfaces, absence of required plating, evidence or prior usage, scratches, new paint over old, attempted exterior repair, pitting or corrosion, etc.).
4. Inspect parts certification paperwork to determine if the part is an APPROVED serviceable replacement part. Approved parts are identified by one of the following means:
    - By a FAA form 8130-3 Airworthiness approval Tag
    - By a FAA Technical Standard Order (TSO) number and identification markings
    - Serviceable tag or requisition form executed in accordance with the provisions of FAR 43.9
    - By a FAA/PMA symbol, along with the manufacturer's name, trademark or symbol, part number and the make and model of the type certificated product on which the part is eligible for installation, stamped on the part. The make and model information may be on a tag attached to the part.
    - By shipping ticket, invoice or other document which provides evidence that the part was produced by a manufacturer holding a FAA Approved Production Inspection System issued under FAR 21, subpart G.
    - For materials that require materials certification paperwork (materials used in aircraft interiors, etc.) ensure that the appropriate paperwork (8110, 8130-3, etc.) is provided.

### Suspected Unapproved Parts

Report any **Suspected Unapproved Parts** immediately to the Director of Maintenance or delegate for evaluation. If warranted, the Director of Maintenance will file a FAA Form 8120-11 "Suspected Unapproved Parts Notification" and coordinate follow-up with the FAA. Reject for use any materials with expired shelf-life dates.

Reject and place in an inspection hold status any container or material with obvious damage and notify the director of Maintenance or delegate for disposition.

Reject for use any parts or materials that fail initial inspection. Place items in an inspection hold status and report discrepancies to the Director of Maintenance or delegate who will evaluate any supplier problem and evaluate if a hidden damage inspection will be required.

## CHAPTER 4 – Maintenance

DOC'S FRIENDS, INC. (DFI), maintains the Experimental Category B-29 in accordance with the FAA Approved Aircraft Inspection Program in accordance with 14 CFR 91.409(F)(4) and the appropriate Aircraft Technical Orders and other FAA approved data.

Records of maintenance performed and maintenance inspection records to comply with the conditions above shall meet the requirements of FAR 43.9, 43.11, 91.405 & 91.417.

### Airworthiness Operational Status

As part of the preflight duties, the assigned Pilot in Command (PIC) will:

1. Note the date and the aircraft Hobbs and compare them with the inspection due dates and times listed on the aircraft status sheet.
2. Determine whether the flight or series of flights can be completed without any required inspection coming due before the aircraft returns to home base. The applicable inspections are listed below along with when they must have been previously accomplished.
    - Annual Condition Inspection within the preceding 12 calendar months.
    - 50 Hour Inspection within the preceding 50 hours of operation when applicable.
    - 100 Hour Inspection within the preceding 100 hours of operation when applicable.
    - The time interval between inspections of the Approved Aircraft Inspection Program is not exceeded
    - Transponder, pitot/static system and altimeter inspections and calibrations have been complied with within the preceding 24 calendar months in accordance with FAR 91.411 & .413.
    - ELT Battery replaced on or before the date listed by the manufacturer or after one hour of cumulative use, whichever comes first.
    - Aircraft weighing, and current empty weight and center of gravity calculation
3. If the scheduled flight(s) cannot be completed without one of the aforementioned inspections becoming overdue, the PIC will immediately contact the Chief Pilot and Director of Maintenance (or designee) for instructions. Under no conditions will a PIC commence a flight if any required inspection time has been exceeded.
4. Determine that for deferred and corrected mechanical irregularities the aircraft has been certified as approved for return to service by an Airframe and Powerplant Mechanic or by the Director of Maintenance. This certification will appear on the Aircraft Discrepancy Log (ADL).

### Reporting and Recording of Mechanical Irregularities

Whenever a pilot finds a defective piece of equipment, he/she will:

1. Check the Aircraft Discrepancy Log (ADL) in the aircraft to see if the item has been previously reported and properly deferred. If the item has not been previously written up, record the pertinent information in the ADL. The ADL will remain in the aircraft until

the affected part is repaired or replaced and an entry to that effect is made in the aircraft permanent maintenance records.

2. If the defective equipment is not deferrable, the PIC will not allow the aircraft to take off until the Director of Maintenance (or his designee) is contacted and the mechanical irregularity is corrected.

All mechanical irregularities discovered during the course of a flight will be brought to the attention of the Director of Maintenance after the flight, whether or not the Director of Maintenance was notified previously.

### Deferred Items

Temporary deferrals of some items are allowed by FAR 91.213(d). All deferred items will be recorded in the Aircraft Discrepancy Log (ADL). The log will contain any flight limitations, who it was deferred by and the date it was deferred and who it was cleared by and the date cleared. To defer an item:

1. Notify Director of Maintenance.
2. All deferred items will be placarded INOP.
3. Labels will be provided to note the discrepancy page # and item.
4. Affix INOP sticker adjacent to deferred item.
5. Complete entry in AML.

### Previously Deferred and Corrected Maintenance Irregularities

The Pilot in Command (PIC) will review the previous Aircraft Discrepancy Log (ADL) in the aircraft to determine whether any write-ups have been either deferred in accordance with FAR 91.213(d) or corrected. If the PIC finds a mechanical irregularity that has not been either corrected or properly deferred, the PIC will not takeoff, but will contact the Chief Pilot or his designee for instructions.

### Obtaining Maintenance Away from Home Base

If the aircraft requires preventative maintenance, maintenance or servicing while away from the home base, the PIC will contact the Director of Maintenance or his designee for instructions.

### Weight and Balance Operations

#### Weight and Balance Procedures

1. Before each flight, the Flight Engineer (FE) will calculate the gross takeoff weight and the actual center of gravity for the loaded weight. The FE will determine that these calculated values fall within the manufacturer's allowable weight and balance limits for the aircraft. The FE will give the results to the PIC prior to flight.
2. Weight and balance calculations will be computed from the aircraft weight and balance records using standard weights for the crew, passengers, baggage and actual cargo weights.
3. The weight may also be determined by asking each passenger their weight. In the event the FE determines an obvious discrepancy in the weight given it will become necessary to weigh that passenger.

#### Flight Load Manifest

The Lead Scanner will prepare a Flight Load Manifest (FLM) prior to each flight. DFI will keep a copy of the manifest on file for 30 days. The load manifest shall include at least the following items:

1. Date and scheduled time of departure.
2. The number of passengers.
3. The names of passengers.
4. Identification of crewmembers and their crew position assignments.
5. The Hold Harmless Form is complete and signed for all persons that will be on board the aircraft when flying.

### Fueling Procedures

All refueling will be made from aviation fuel sources using adequate filtering. There will be no **"HOT"** refueling, i.e., refueling an aircraft with any engines running.

The Flight Engineer (FE) shall:

1. Determine the amount of fuel that will be required for the scheduled flight and place the order for it. The octane rating of the fuel dispensed will be the minimum octane required by the engine or, if that is not available, the next higher octane rating.
2. Ensure the aircraft is bonded properly.
3. Ensure that refueling does not take place inside a hangar.
4. Disembark all passengers and ensure they will not approach within 100 feet of the aircraft until refueling has been completed.
5. Verify that all aircraft electrical switches are placed in the OFF position prior to fueling and remain so for the duration of the fueling procedure, unless otherwise required for the refueling operation.
6. Verify that an adequate and operable fire extinguisher is available in the immediate vicinity.
7. Ensure that no person smokes, and that there is no lighted flame or spark within 50 feet of the aircraft.
8. After the refueling operation is completed and prior to flight:
    - Take fuel samples from the tank and sump drains and verify these fuel samples are free from moisture and other contamination.
    - Verify the fuel and oil caps and associated access doors are secure.

## CHAPTER 5 – Ground Operations

### General

We operate our B-29 on the same ramp areas where other large aircraft operate and it is important that our flight crewmembers and ground personnel are familiar with commonly used ground handling procedures and signals used by ramp personnel.

Often when away from home base, the ground personnel directing our B-29 will not be DFI personnel. It is important that our crews and ground personnel understand and comply with standardized ramp procedures and signals.

Line personnel whose responsibilities include aircraft marshalling and ground servicing, regardless of titles, are to be trained with the guidance of the DOM. This chapter is included so pilots and ground personnel have guidance available for the ground handling of aircraft.

Marshallers are trained to assist pilots and taxi / tow personnel to position aircraft in a safe manner.

## Ground Handling Requirements

Ground Personnel coordinating the safe movement of aircraft and ground equipment are termed many different titles (Wing Walker, Clearance Guide, Marshaller, etc.) Only personnel currently qualified and authorized as Ramp Qualified by the Director of Operations, DOM or Pilot in Command shall assist and/or direct aircraft movement.

Personnel not qualified shall give only a STOP signal to an aircraft operator who is signaling for guidance and shall secure assistance from a Marshaller as soon as possible.

Each Marshaller is responsible for giving proper signals in accordance with the applicable illustrations. When giving a hand signal, allow for "reasonable" personnel reaction times and equipment clearances for the circumstances.

After a pilot reacts, it may take several feet for an aircraft to stop. If an aircraft is turning, the tail and wing tips will travel several times further than the gear because of the greater radius of track.

Each Marshaller is responsible for the safe operation in an assigned area when an aircraft is moving. They shall immediately give a STOP signal anytime there is an indication signal is not being followed or understood, or if there is any doubt that the aircraft can be moved safely.

Under no condition shall an aircraft be taxied, towed or pushed in a congested area where any aircraft-to-object clearance is minimal, unless, sufficient personnel are used to signal the clearance conditions as necessary for safe operation. In congested areas moving the wands or hands together or apart will continuously indicate relative clearance.

Aircraft Marshallers must guard against judgment errors due to viewing covering objects from a distance. Get as close as possible to the likely point of contact.

Personnel giving Hand Signals must remain visible to the intended recipient of the signals and as practical, must directly face the recipient.

Ramp Qualification training will be recorded on and filed in the DOM's office.

## Flight Crew Requirements

Authorized personnel only shall be assigned the responsibility for guiding or clearing aircraft into the ramp parking areas.

Whenever the taxiing is in close quarters and requires guidance from ground personnel, it is the pilot's responsibility to stop the aircraft and request assistance.

Pilots may follow a Marshaller's hand directional signals, but it is understood such signals indicate clearance or lack of clearance only. Marshallers must provide accurate hand signal information.

## Towing Aircraft

Before aircraft towing, all personnel are to familiarize themselves with the procedures laid down in the Aircraft Technical Orders, Corporation policies and procedures and the Operations Manual.

Whenever practical, the aircraft shall be towed instead of taxied. Exercise care to prevent damage to the aircraft and equipment, especially in congested areas where maneuvering

clearances are at a minimum or high winds are prevailing. Use only approved tugs and tow bars when towing aircraft.

Due to the size of the B-29, several qualified persons will be required before an aircraft can be towed. Both tug operator and aircraft operator (brake rider) must be qualified in the proper procedures for aircraft towing on the applicable equipment. The person designated to operate the aircraft brakes is to be trained by the DOM or designee in the use of the hydraulic brakes and emergency brake system. Depending on the congestion on the ramp and possibilities of conflict with other aircraft or structures, there shall be wing walkers stationed at each wing tip and at least one tail walker to signal continuously the amount of clearance with hand signals.

Prior to towing the B-29 from a runway or taxiway due to a malfunction and/or an emergency condition, establish communications with the flight crew for any necessary requests or instructions.

Signals between the tug operator, aircraft operator and wing/tail walkers shall be by hand signal procedures.

### Aircraft Towing Signals

We have oral and hand signaling procedures for towing operations. Due to the size of the B-29, it shall be the joint responsibility of the tug operator and the aircraft operator to adhere strictly to the signaling procedures.

### Aircraft Ground Operations

Only crewmembers or trained/qualified personnel may perform taxi and run-up procedures. When taxiing into or away from ramp areas, the taxiing pilot shall follow the hand signals given by qualified Marshallers who assist in maneuvering the aircraft in those areas. The individual signaling the aircraft is responsible for determining the aircraft will clear all obstructions.

### Engine Start Sequence

1. Only crewmembers or trained/qualified personnel may perform engine start procedures. The standard sequences for starting aircraft engines shall be adhered to unless prior agreement is reached between flight and ground crews. A qualified Long-Line person will be in direct oral contact with the Flight Engineer (FE) and the flight crew throughout the entire engine starting operation. A qualified Fire Watch person will have the largest fire extinguisher available by each engine as it is being started.
2. Whenever a Ground Power Unit is used, do not remove the unit until specifically requested to do so by the flight crew.
3. Do not start any engine unless the side of the B-29 on which the engine is to be started is clear of equipment and personnel other than the Long-Line and the Fire Watch, Propellers are clear.
4. The standard Engine Starting Order is Pre-oil Engine #3 - #4 - #2 - #1, followed by the actual starting of engines in the same order. The Long-Line person will count the propeller blades during the start by 2's, i.e. 2-4-6-8, when the Flight Engineer shall enable the magnetos.
5. After all operations involving ground personnel are completed, Long-Line rolled up and given to the FE, chocks are pulled and fire bottle positioned away from the aircraft, the CLEARANCE TO DEPART signal (Departure Salute) shall be given only to the Captain

(PIC). This departure salute shall signify the ramp taxi area is clear and the aircraft is secure and ready to depart under power.

## Aircraft Taxi and Run up

The following procedures are utilized for maintenance taxi and run-up. Aircraft run-up is to be accomplished by qualified flight crewmembers or maintenance personnel. The Director of Operations shall decide who will qualify maintenance personnel as requested by the DOM.

All taxiing of aircraft or repositioning under power shall be accomplished by qualified personnel.

The above policy shall not restrict the maintenance personnel from observing the taxi and/or run-up and directing the operations required to be accomplished. Final responsibility for aircraft operations (taxi and/or run-up) shall rest with the Captain (PIC) or the DOM.

## Ramp Signals

**NOTE:** not all these signals apply to our B-29 or method of operations (i.e. gate operations). Our B-29 are ground handled / marshalled by experienced personnel that expect the pilot to know what the signals mean to their aircraft operation.

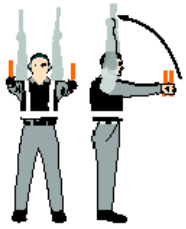
The following marshalling signals shall be used from a Marshaller to the pilot. The Marshaller shall be positioned forward of the left wing within view of the pilot. The meanings of the signals remains the same if batons, illuminated wands or flashlights are used.

Prior to using the following signals, the Marshaller shall ascertain that the area within which an aircraft is to be guided is clear of objects which the aircraft might otherwise strike.

**1. Wingwalker/guide.**

Raise right hand above head level with wand pointing up; move left-hand wand pointing down toward body.

*Note: This signal provides an indication by a person positioned at the aircraft wing tip to the pilot/ marshaller/ push-back operator that the aircraft movement on/off a parking position would be unobstructed.*



**2. Identify gate**

Raise fully extended arms straight above head with wands pointing up.

**3. Proceed to next signalman or as directed by tower/ground control**

Point both arms upward; move and extend arms outward to sides of body and point with wands to direction of next signalman or taxi area.

**4. Straight ahead**

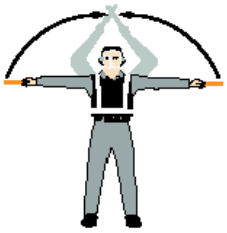
Bend extended arms at elbows and move wands up and down from chest height to head.

**5 a). Turn left (from pilot's point of view)**

With right arm and wand extended at a 90-degree angle to body, make "come ahead" signal with left hand. The rate of signal motion indicates to pilot the rate of aircraft turn.

**5 b). Turn right (from pilot's point of view)**

With left arm and wand extended at a 90-degree angle to body, make "come ahead" signal with right hand. The rate of signal motion indicates to pilot the rate of aircraft turn.



**6 a). Normal stop**

Fully extend arms and wands at a 90-degree angle to sides and slowly move to above head until wands cross.

**6 b). Emergency stop**

Abruptly extend arms and wands to top of head, crossing wands.

**7 a). Set brakes**

Raise hand just above shoulder height with open palm. Ensuring eye contact with flight crew, close hand into a fist. Do not move until receipt of "thumbs up" acknowledgement from flight crew.

**7 b). Release brakes**

Raise hand just above shoulder height with hand closed in a fist. Ensuring eye contact with flight crew, open palm. Do not move until receipt of "thumbs up" acknowledgement from flight crew

**8 a). Chocks inserted**

With arms and wands fully extended above head, move wands inward in a "jabbing" motion until wands touch. Ensure acknowledgement is received from flight crew.

**8 b). Chocks removed**

With arms and wands fully extended above head, move wands outward in a "jabbing" motion. Do not remove chocks until authorized by flight crew.

**9. Start engine(s)**

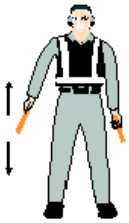
Raise right arm to head level with wand pointing up and start a circular motion with hand; at the same time, with left arm raised above head level, point to engine to be started.

**10. Cut engines**

Extend arm with wand forward of body at shoulder level; move hand and wand to top of left shoulder and draw wand to top of right shoulder in a slicing motion across throat.

**11. Slow down**

Move extended arms downwards in a "patting" gesture, moving wands up and down from waist to knees.



**12. Slow down engine(s) on indicated side**

With arms down and wands toward ground, wave either right or left wand up and down indicating engine(s) on left or right side respectively should be slowed down.


**21. Fire**

Move right-hand wand in a "fanning" motion from shoulder to knee, while at the same time pointing with left-hand wand to area of fire.

**22. Hold position/stand by**

Fully extend arms and wands downwards at a 45-degree angle to sides. Hold position until aircraft is clear for next maneuver.

**23. Dispatch aircraft**

Perform a standard salute with right hand and/or wand to dispatch the aircraft. Maintain eye contact with flight crew until aircraft has begun to taxi.

## CHAPTER 6 – Forms

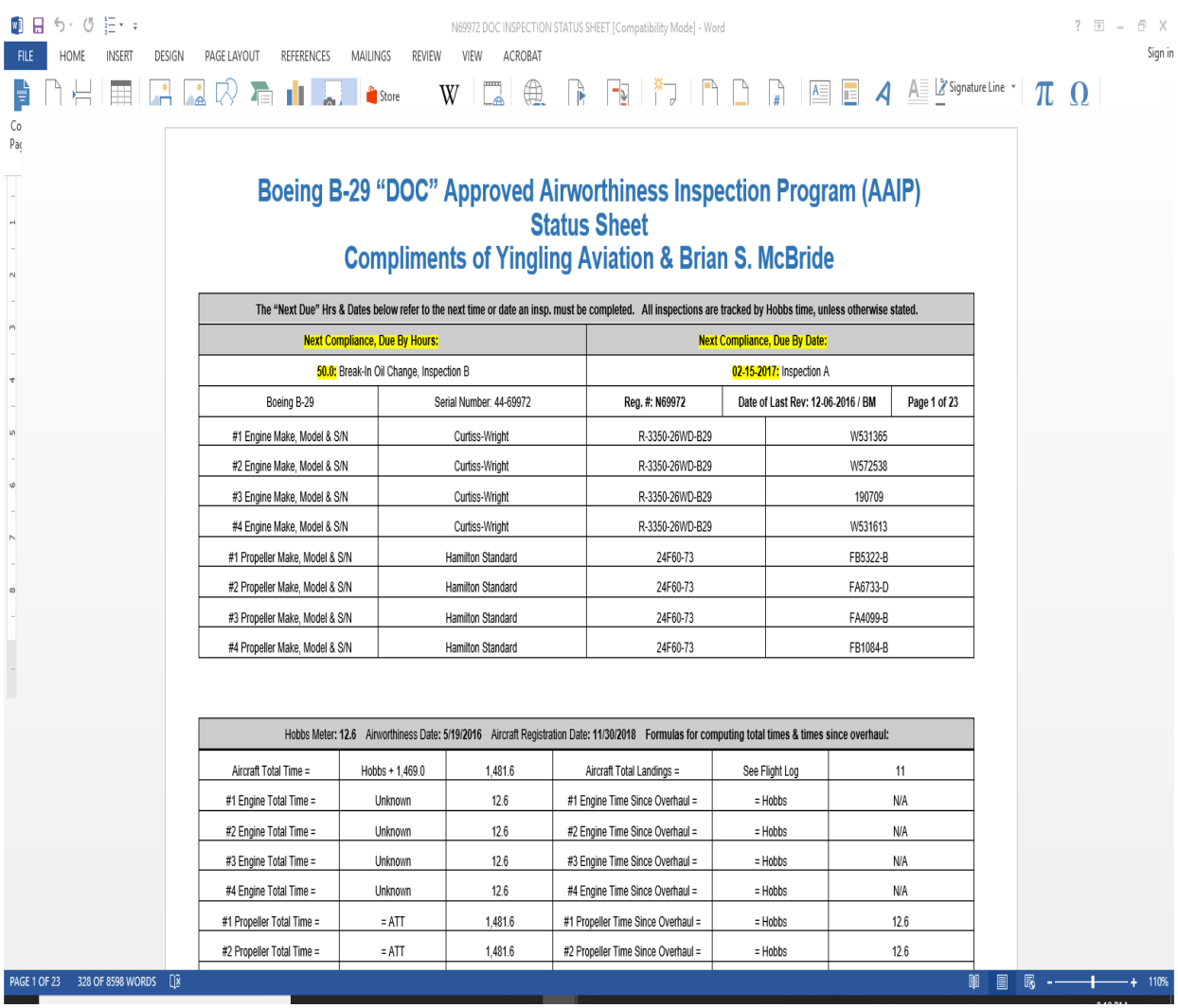
### Aircraft Discrepancy Log (ADL)

| AIRCRAFT REGISTRATION | DOC'S FRIENDS | PG _____ OF _____ |
|---|---|---|

| N69972 | AIRCRAFT DISCREPANCY LOG | |
|---|---|---|
| SQK # | DISCREPANCY | NAME |
| | | DATE |
| CORRECTIVE ACTION: | | MECH |
| | | DATE |
| | | INSPECT |
| | | DATE |
| P/N & S/N OFF | P/N & S/N ON | |
| SQK # | DISCREPANCY | NAME |
| | | DATE |
| CORRECTIVE ACTION: | | MECH |
| | | DATE |
| | | INSPECT |
| | | DATE |
| P/N & S/N OFF | P/N & S/N ON | |

## Approved Airworthiness Inspection Program Status Sheet

This is the first page of a multi-page report showing the maintenance status of all Inspections, life limited items and AD/SB Compliances. There will be a current copy carried on the aircraft at all times when flying.



N69972 DOC INSPECTION STATUS SHEET [Compatibility Mode] - Word

FILE HOME INSERT DESIGN PAGE LAYOUT REFERENCES MAILINGS REVIEW VIEW ACROBAT

## Boeing B-29 "DOC" Approved Airworthiness Inspection Program (AAIP)
## Status Sheet
## Compliments of Yingling Aviation & Brian S. McBride

| The "Next Due" Hrs & Dates below refer to the next time or date an insp. must be completed. All inspections are tracked by Hobbs time, unless otherwise stated. | | | | |
|---|---|---|---|---|
| **Next Compliance, Due By Hours:** | | **Next Compliance, Due By Date:** | | |
| **50.0:** Break-In Oil Change, Inspection B | | **02-15-2017:** Inspection A | | |
| Boeing B-29 | Serial Number: 44-69972 | **Reg. #: N69972** | **Date of Last Rev: 12-06-2016 / BM** | **Page 1 of 23** |
| #1 Engine Make, Model & S/N | Curtiss-Wright | R-3350-26WD-B29 | W531365 | |
| #2 Engine Make, Model & S/N | Curtiss-Wright | R-3350-26WD-B29 | W572538 | |
| #3 Engine Make, Model & S/N | Curtiss-Wright | R-3350-26WD-B29 | 190709 | |
| #4 Engine Make, Model & S/N | Curtiss-Wright | R-3350-26WD-B29 | W531613 | |
| #1 Propeller Make, Model & S/N | Hamilton Standard | 24F60-73 | FB5322-B | |
| #2 Propeller Make, Model & S/N | Hamilton Standard | 24F60-73 | FA6733-D | |
| #3 Propeller Make, Model & S/N | Hamilton Standard | 24F60-73 | FA4099-B | |
| #4 Propeller Make, Model & S/N | Hamilton Standard | 24F60-73 | FB1084-B | |

| Hobbs Meter: 12.6 Airworthiness Date: 5/19/2016 Aircraft Registration Date: 11/30/2018 Formulas for computing total times & times since overhaul: | | | | | |
|---|---|---|---|---|---|
| Aircraft Total Time = | Hobbs + 1,469.0 | 1,481.6 | Aircraft Total Landings = | See Flight Log | 11 |
| #1 Engine Total Time = | Unknown | 12.6 | #1 Engine Time Since Overhaul = | = Hobbs | N/A |
| #2 Engine Total Time = | Unknown | 12.6 | #2 Engine Time Since Overhaul = | = Hobbs | N/A |
| #3 Engine Total Time = | Unknown | 12.6 | #3 Engine Time Since Overhaul = | = Hobbs | N/A |
| #4 Engine Total Time = | Unknown | 12.6 | #4 Engine Time Since Overhaul = | = Hobbs | N/A |
| #1 Propeller Total Time = | = ATT | 1,481.6 | #1 Propeller Time Since Overhaul = | = Hobbs | 12.6 |
| #2 Propeller Total Time = | = ATT | 1,481.6 | #2 Propeller Time Since Overhaul = | = Hobbs | 12.6 |

PAGE 1 OF 23 328 OF 8598 WORDS 110%

## Aircraft Flight Log

# DOC's Friends, Inc.
# Aircraft Flight Log
# N69972
### B-29 44-69972

| Date | Flight From - To | No. of PAX | Flight Duration Hrs. Ths. | Accumulated Total Time | | | | | No of Lds | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Aircraft Hrs. Ths. | Eng. 1 Hrs. Ths. | Eng. 2 Hrs. Ths. | Eng.3 Hrs. Ths. | Eng. 4 Hrs. Ths. | | |
| Accumulated Totals Brought Fwd. → | | | | | | | | | | |
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| Flight Log Number | Page _____ of _____ | Comments: |
|---|---|---|

Revision 1 01-08-2018

## Record of Revision

# Record of Revisions

| Revision Number | Page of Revision | Date of Revision | Reason for Change | Inserted by |
|---|---|---|---|---|
| Original | N/A | 03/05/2018 | Establishment | RH |
| Rev 1 | Complete | 03/01/2022 | Formatting | JW |
| | | | | |
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## APPENDIX A

### General Training and Qualifications Manual

Ground Training – Before being assigned to any duty, all personnel will receive basic indoctrination training in DFI corporate policies and procedures, aircraft construction, maintenance and operation. Additionally, all pilots will receive annual ground training on a B-29. A record of this training will become a part of each pilot's training file.

### Required Basic Indoctrination - Pilot

1. DFI policies and organization
2. FAA rules and regulations
3. DFI Operations Manual
4. DFI B-29 Flight Handbook
5. DFI General Maintenance Manual
6. DFI SMS Manual
7. Maintenance reporting procedures

### Required Pilot Ground Training Tasks

1. General information and description of the B-29
2. Aircraft Limitations
3. Aircraft servicing
4. Airspeeds
5. Fuel system
6. Electrical system
7. Engines
8. Instruments and Avionics
9. Landing Gear, Brakes, Controls and flaps
10. Propellers
11. Emergency Procedures
    - Instruction in Emergency Procedures including coordination of passengers and crew
    - Individual instruction in the location, function and operation of emergency equipment, including:
        i. First Aid equipment and its proper use
        ii. Portable fire extinguishers.
    - Instruction in the handling of emergency situations including:
        i. Fire in flight or on the ground and smoke control procedures with emphasis on electrical equipment and related circuit breakers found in cabin areas.
        ii. Illness, injury or other abnormal situations involving passengers or crewmembers
12. Weight and Balance
13. Performance and Planning
14. Checklist usage

### Required Pilot Flight Training Tasks

1. Preflight Preparation
    - Airplane Exam (oral or written)

   - Airplane performance &Limitations (oral or written)
2. Ground Operations including:
   - Preflight Inspection
   - Cockpit Resource Management
   - Powerplant Start Procedures
   - Taxiing
   - Pre-takeoff Checks
3. Takeoffs and Departures including:
   - Normal and Crosswind Takeoffs
   - Powerplant failures
   - Rejected takeoffs
4. In-flight Maneuvers including:
   - Steep Turns
   - Approach to Stalls
   - Powerplant failure
   - Specific flight characteristics
5. Landings and approaches to landings including:
   - Normal and Crosswind approaches and landings
   - Maneuvering to landing with a simulated powerplant failure
   - Rejected landing
   - Landing from a no flap or nonstandard flap approach
6. Normal and Abnormal Procedures including:
   - Powerplant
   - Fuel system
   - Electrical system
   - Hydraulic system (brakes)
   - Fire Detection
   - Navigation and Avionics system
   - Flight Control system
   - Airplane and personal Emergency Equipment
7. Emergency Procedures including:
   - Inflight fire and smoke removal
   - Ditching
   - Emergency Evacuation
8. Post Flight Procedures including:
   - After Landing procedures
   - Parking and Securing airplane

### Required Flight Engineer Ground Training Tasks

1. General information and description of the airplane
2. Airplane Limitations
3. Airplane Servicing
4. Electrical system
5. Powerplants, principles and operation
6. Instruments
7. Landing Gear, Brakes, Controls and Flaps
8. Propellers

9. Emergency Procedures
    - Instruction in Emergency Procedures including coordination of passengers and crew
    - Individual instruction in the location, function and operation of emergency equipment, including:
        i. First Aid equipment and its proper use
        ii. Portable fire extinguishers.
    - Instruction in the handling of emergency situations including:
        i. Fire in flight or on the surface and smoke control procedures with emphasis on electrical equipment and related circuit breakers found in cabin areas.
        ii. Illness, injury or other abnormal situations involving passengers or crewmembers
15. Weight and Balance
16. Performance and Planning
17. Checklist usage

### Required Flight Engineer Flight Training Tasks

1. Preflight Preparation
    - Airplane Exam (oral or written)
    - Airplane performance & Limitations (oral or written)
1. Ground Operations including:
    - Preflight Inspection
    - Cockpit Resource Management
    - Powerplant Start Procedures
    - Taxiing
    - Pre-takeoff Checks
2. Takeoffs and Departures including:
    - Normal and Crosswind Takeoffs
    - Powerplant failures
3. In-flight Operations
    - Powerplant Malfunction or failure
    - Fire Detection and Extinguishing system
    - Fuel system management
    - Electrical system management
    - Hydraulic system management (brakes)
    - Flight Control system
    - Airplane and personal emergency equipment
4. Emergency Procedures including:
    - In-Flight fire and smoke removal
    - Landing Gear Malfunction
    - Flap System Malfunction
    - Emergency Evacuation
5. Post Flight Procedures including
    - After Landing Procedures
    - Parking and securing aircraft

### Maintenance and Ground Training - General

All maintenance personnel will be properly trained in the policies and procedures required to perform their duties. The General Maintenance Manual (GMM) contains the Maintenance Training Program.

The Director of Maintenance (DOM) may develop training programs, manuals or other applicable training material based on input from the manufacturers, military training manuals or other Industry Peer developed training materials. It is the responsibility of the DOM to ensure all maintenance personnel are adequately trained to perform their assigned duties. In-house training is accomplished to ensure that personnel are familiar with the procedures outlined in this manual with respect to their assigned and authorized duties.

All maintenance personnel receive recurrent training on the FMM procedures every 12 months. Such training includes review, reinforcement and upgrade of all training in both Corporation procedures and aircraft technical subjects, systems and out safety related items.

### Maintenance and Ground training

All maintenance personnel are trained in the contents and use of the GMM and the SMS. This training is entered either on the computer or printed records that are acceptable to the DOM.

### Completion of the Mechanic and Ground Training Record

Only a qualified mechanic or inspector will make entries in a training record. It is the responsibility of the DOM to ensure all entries are complete and accurate. The DOM maintains the mechanic training records. Similar in scope to basic corporation specific procedures for Return to Service, Deferral, and Logbooks.

### Safety Manual System Training

The Director of Safety and Compliance (DOS) will develop and conduct training on the DFI SMS Manual and other related aspects of operational safety.

**FAR 91.213 - Inoperative instruments and equipment Maintenance Deferrals**
DOC'S FRIENDS, INC., may apply any of the applicable elements noted in **BOLD text**. The Director of Operations and the Director of Maintenance or Mechanic Designee concurrence is Mandatory.

(a**) Except as provided in paragraph (d) of this section,** no person may take off an aircraft with inoperative instruments or equipment installed unless the following conditions are met:

(1) An approved Minimum Equipment List exists for that aircraft.

(2) The aircraft has within it a letter of authorization, issued by the FAA Flight Standards district office having jurisdiction over the area in which the operator is located, authorizing operation of the aircraft under the Minimum Equipment List. The letter of authorization may be obtained by written request of the airworthiness certificate holder. The Minimum Equipment List and the letter of authorization constitute a supplemental type certificate for the aircraft.

(3) The approved Minimum Equipment List must—

(i) Be prepared in accordance with the limitations specified in paragraph (b) of this section; and

(ii) Provide for the operation of the aircraft with the instruments and equipment in an inoperable condition.

(4) The aircraft records available to the pilot must include an entry describing the inoperable instruments and equipment.

(5) The aircraft is operated under all applicable conditions and limitations contained in the Minimum Equipment List and the letter authorizing the use of the list.

(b) The following instruments and equipment may not be included in a Minimum Equipment List:

(1) Instruments and equipment that are either specifically or otherwise required by the airworthiness requirements under which the aircraft is type certificated and which are essential for safe operations under all operating conditions.

(2) Instruments and equipment required by an airworthiness directive to be in operable condition unless the airworthiness directive provides otherwise.

(3) Instruments and equipment required for specific operations by this part.

(c) A person authorized to use an approved Minimum Equipment List issued for a specific aircraft under subpart K of this part, part 121, 125, or 135 of this chapter must use that Minimum Equipment List to comply with the requirements in this section.

(d) **Except for operations conducted in accordance with paragraph (a) or (c) of this section, a person may takeoff an aircraft in operations conducted under this part with inoperative instruments and equipment without an approved Minimum Equipment List provided—**

(1) **The flight operation is conducted in a—**

(i) Rotorcraft, **non-turbine-powered airplane**, glider, lighter-than-air aircraft, powered parachute, or weight-shift-control aircraft, for which a master minimum equipment list has not been developed; or

(ii) Small rotorcraft, nonturbine-powered small airplane, glider, or lighter-than-air aircraft for which a Master Minimum Equipment List has been developed; and

(2) **The inoperative instruments and equipment are not—**

**(i) Part of the VFR-day type certification instruments and equipment prescribed in the applicable airworthiness regulations under which the aircraft was type certificated;**

**(ii) Indicated as required on the aircraft's equipment list, or on the Kinds of Operations Equipment List for the kind of flight operation being conducted;**

**(iii) Required by §91.205 or any other rule of this part for the specific kind of flight operation being conducted; or**

**(iv) Required to be operational by an airworthiness directive; and**

**(3) The inoperative instruments and equipment are—**

**(i) Removed from the aircraft, the cockpit control placarded, and the maintenance recorded in accordance with §43.9 of this chapter; or**

**(ii) Deactivated and placarded "Inoperative." If deactivation of the inoperative instrument or equipment involves maintenance, it must be accomplished and recorded in accordance with part 43 of this chapter; and**

**(4) A determination is made by a pilot, who is certificated and appropriately rated under part 61 of this chapter, or by a person, who is certificated and appropriately rated to perform maintenance on the aircraft, that the inoperative instrument or equipment does not constitute a hazard to the aircraft.**

**An aircraft with inoperative instruments or equipment as provided in paragraph (d) of this section is considered to be in a properly altered condition acceptable to the Administrator.**

**(e) Notwithstanding any other provision of this section, an aircraft with inoperable instruments or equipment may be operated under a special flight permit issued in accordance with §§21.197 and 21.199 of this chapter.**